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The National Science Foundation's Tokyo Regional Office periodically reports on developments in Japan that are related to the Foundation's mission. It also provides occasional reports on developments in other East Asian countries.

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Japan's "Innovation 25" Initiative

The "Innovation 25" initiative was established in September 2006 based on Prime Minister Abe's desire to establish "Beautiful Japan." Dr. Kiyoshi Kurokawa, former President of the Science Council of Japan, was appointed Chair of the Innovation 25 Strategy Council, and as a special advisor to the Cabinet. Seven Innovation 25 Strategy Council members, together with Council for Science and Technology Policy members and staff, and others, met eight times and released an interim report on February 26, 2007 (See English version at http://www.kantei.go.jp/foreign/innovation/interim_e.html)

After review of public comment on the interim report and three more Council meetings, Minister of State for Innovation, Ms. Sanae Takaichi, made the final "Innovation25" roadmap public on May 25, 2007. The report is available on the Web only in Japanese

(<http://www.kantei.go.jp/jp/innovation/chukan/070525.html>), but will be translated into English and posted on the Cabinet Office's Website later. After approval of the final report by the Cabinet, it will be included in the National Basic Policies-2007 to be compiled by CEFP (Council on Economic and Fiscal Policy) in the middle of June 2007. The "Innovation-25 Headquarters" will be established within the Cabinet Office, the details of which, including personnel and timing, will be decided later.

"Innovation 25" sets five goals for the year 2025, based on predictions that Japan will face, in the coming 20 years, decreasing population, aging society, importance of global sustainability, and rapid development of knowledge and information society:

Long and healthy lives

A safe and secure society

Society with diverse work styles

Society that contributes significantly to resolving global environmental issues

Society that is open to the world.

The final report on "Innovation 25" can be viewed from two angles: from the policies to be implemented, and as a detailed list of research targets. Of the policies to be implemented in the short term, highlights of concern to NSF include:

- Strengthening of University IPR
- Mobility between university-government-industry
- Measurement of innovation and evaluation of R&D
- Investment in young researchers
- Review and expansion of competitive research funds
 - Enable funds to cover personnel costs
 - Make evaluation by foreigners possible
 - Enable funds to be carried over to the next fiscal year
 - 30 percent indirect cost rate for all competitive research funds
- Establishment of world top-level research centers
(Refer to NSF/T Report at: <http://www.nsftokyo.org/rm07-04.pdf>)
- Support to foreigners
- More opportunities for young people to go overseas
- Fostering entrepreneurship
- Provision of opportunities for advanced math and science education to students

- Enrichment of math and science education
- Strengthening of university research and education
- Universities open to the world
- Strengthening of science and technology diplomacy.

Detailed research targets are divided into two groups: those to be accomplished by 2010 (the last year of the Third Science and Technology Basic Plan), and those to be accomplished after 2011 (during the Fourth and subsequent Science and Technology Basic Plans). The detailed research targets under each goal are divided into Japan's eight S&T priority areas: life science, information technology, environment, nanotechnology/materials, energy, manufacturing technologies, social infrastructure, and frontier. To provide a flavor of the detailed research targets of Innovation-25's five goals, this report lists one example under each:

Goal: Long and Healthy Lives:

Field: Life Science

Priority S&T: Elucidation of hardware and software of life systems, including brain, by interdisciplinary research with information science

Research targets by 2010: Development of brain-type information processing technology

Research targets after 2011: Development of a brain/machine interface that interacts with information communication devices by obtaining brain information at system level and decoding in real time; Elucidation of cognitive and development function of brain and development function of emotion to conquer brain and mental diseases; Development of brain-type computer based on brain information processing system (by 2030).

Goal: A Safe and Secure Society

Field: Social Infrastructure

Priority S&T: Earthquake observation technologies with advanced functions and precision

Research targets by 2010: Earthquake and tsunami observation network in Nankai Trough; Advancement of the prediction of deep trench earthquakes; Advancement of precision for active fault earthquake prediction; Improvement of earthquake measurement equipment, observation network, and data centers; Advancement of GEONET and elucidation of earthquake/volcanic activities; Elucidation of earthquake mechanism from rock destruction to plate destruction by large-scale simulation; Establishment of earthquake hazard stations by compiling advanced simulation technologies for strong earthquake and underground structures; establishment of simulations for physical modeling and prediction of crust movements; Database for GISed active

faults; Real time observation of ocean floor earthquakes.

Research targets after 2011: Establishment of observation network system for Nankai earthquakes/tsunamis; Establishment of Asia/Pacific earthquake observation net; Advancement of prediction for urban area large-scale earthquakes.

Goal: Society with Diverse Work Styles

Field: Information Technology

Priority S&T: Robots in cities and at home

Research targets by 2010: Establishment of common platform technologies; Establishment of robot communication technologies; Materialization of robots that can support human behavior in public space and facilities.

Research targets after 2011: Introduction of multi-functional home robots that can support people at home and in cities (Robots that can do laundry, cleaning, and cooking, and support bathing) (by 2025).

Goal: Society that Contributes Significantly to Resolving Global Environmental Issues

Field: Environment

Priority S&T: Prediction of risks to be brought by global warming, and designing a society free from such risks

Research targets by 2010: Development of simulation models that help design a vision of a society that is free from the risks caused by global warming; Establishment of countermeasures.

Research targets after 2011: Establishment of vision/scenarios by making a policy evaluation model that enables comprehensive evaluation of global warming countermeasures; Clarify long-term countermeasures for decreasing global warming after completion of the first phase of the Kyoto Protocol.

Goal: Society that is Open to the World

Field: Information Technology

Priority S&T: Super communication between multiple number of countries

Research targets by 2010: Materialization of cognitive technologies for “non-language communication”; Recognition/synthesis technologies for multiple languages at daily conversation level.

Research targets after 2011: Development of user-friendly human interface, including multi language voice recognition; Materialization of multi language translation at daily conversation level.

We expect that research targets proposed to be accomplished by 2010 will be woven together with the Third S&T Basic Plan (2006-2010)(See English version at <http://www8.cao.go.jp/cstp/english/basic/index.html>) and will be reflected in the S&T budget for Japanese Fiscal Year 2008.